

REMARKS

Status of the Claims

Claims 1-11 are pending in this application.

Claims 1-11 are rejected.

Claim 2 has been cancelled.

Claims 12-16 are new.

Claim 1 has been amended. Support for these amendments can be found throughout the specification, claims, and drawings, as originally filed.

Rejection of Claims 1 and 3-11 Under 35 U.S.C. § 102(e)

Claims 1 and 3-11 stand rejected under 35 U.S.C. §102(e) as being anticipated by U.S. Patent No. 6,631,316 to Stam et al. (hereafter "Stam '316"). The Applicant respectfully traverses the 35 U.S.C. § 102(e) rejection of claims 1 and 3-11, and respectfully requests reconsideration of the rejections based on the following remarks.

The law is clear that anticipation requires that a single prior art reference disclose each and every limitation of the claim sought to be rejected. The law is also clear that a claim in dependent form shall be construed to incorporate all the limitations of the claim to which it refers.

Claim 1 has been amended to include the elements of the sensor circuit board is arranged in the region between an actuator drive of the interior rearview mirror and a mirror glass. These elements are not disclosed in Stam '316, because Stam '316 does not disclose any sort of actuator, let alone a sensor circuit board being arranged between an actuator drive and a mirror glass. Stam '316 instead discloses a camera

circuit board 202 mounted to a rearview mirror mount 207. *See Figure 2 of Stam '316 and Col. 6, Lines 30-31.* Figure 2 of Stam '316 also shows a mirror circuit board 203 provided in a mirror housing body 210 (i.e., the mirror bezel) on which processor circuit 105 may be mounted. *Col. 6, Lines 43-45.* Figure 2 of Stam '316 clearly shows the camera circuit board 202 mounted in the mirror mount 207, and the mirror circuit board 203 mounted in the mirror housing body 210. Nowhere in Stam '316 is there shown an actuator, or a sensor circuit board arranged in the region between an actuator drive of the interior rearview mirror and a mirror glass, as set forth in claim 1. Claim 1 is clearly not anticipated by Stam '316, removal of the rejection is respectfully requested.

In regard to rejected dependent claim 8, this claim has the elements of wherein the sensor is centered on the edge of the mirror housing. These elements are also not disclosed in Stam '316. Figure 2 of Stam '316 shows the image sensor 101 mounted on the camera circuit board 202. *See Figure 2 of Stam '316.* The image sensor 101 of Stam '316 is not located in a position where the image sensor 101 centered on the edge of the mirror housing, as required by claim 8. Therefore, Stam '316 does not disclose the elements of claim 8.

Claim 12 is a new independent claim which has the elements of at least one electronics circuit board located in said mirror housing, and said sensor circuit board located in said mirror housing, said sensor being operably connected to said sensor circuit board and positioned at least partially in said mirror housing. These elements are also not disclosed in Stam '316 because Stam '316 fails to disclose **both** an electronic circuit board and a sensor circuit board **in a mirror housing**. The mirror circuit board 203 of Stam '316 is disposed within the mirror body housing 210, and the camera circuit board 202 is mounted in the mirror mount 207. *See Figure 2 of Stam '316.* The camera circuit board 202 and the mirror circuit board 203 are therefore disposed in two separate

housings. Since there is only one mirror circuit board 203 located in the mirror housing body 210, as shown in Figure 2 of Stam '316, and a camera circuit board 202 located in the rearview mirror mount 207, there is nothing in Stam '316 that discloses a mirror housing which has an electronic circuit board and a sensor circuit board, as required by independent claim 12.

In view of the foregoing, the Applicant respectfully submits that claims 1, and 12 define over the art cited by the Examiner and respectfully requests withdrawal of the rejection. Likewise, claims 3-11, which depend either directly or indirectly from claim 1, and claims 13-16, which depend from claim 12, further define the invention and define over the art cited by the Examiner. Thus, Applicant respectfully requests withdrawal of the rejection.

Rejection of Claim 2 Under 35 U.S.C. § 103

Claim 2 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over Stam '316 in view of U.S. Publication No. 2004/0032675 to Weller et al. (hereafter "Weller '675"). The Applicant respectfully traverses the 35 U.S.C. § 103(a) rejection of claim 2.

Establishing a *prima facie* case of obviousness requires that the proposed combination of references teach or render obvious **all** the elements of the rejected claims. Claim 1 has been amended to include the elements of claim 2. Claim 1 now includes the elements of the sensor circuit board is arranged in the region between an actuator drive of the interior rearview mirror and a mirror glass. These elements are not taught or rendered obvious by the proposed combination of Stam '316 in view of Weller '675, because both of these references fail to teach or render obvious an actuator drive, or a sensor circuit board arranged in the region between an actuator drive and the

interior rearview mirror and a mirror glass. The proposed combination of references also fail to teach the sensor circuit board being spatially separated from and connected by signals to the electronics circuit board as stated in claim 1.

The Office action asserts that Stam '316 teaches an interior rearview mirror, and that Figure 14 and paragraph [0165] of Weller '675 teaches a rearview mirror having a sensor circuit board 533 is arranged in the region between an actuator drive 560 of the interior rearview mirror and a mirror glass.

However, the proposed combination fails to teach all of the elements of claim 1. Stam '316 instead teaches a camera circuit board 202 mounted to a rearview mirror mount 207. *See Figure 2 of Stam '316 and Col. 6, Lines 30-31.* Stam '316 also teaches in Figure 2 a mirror circuit board 203 provided in a mirror housing body 210 (i.e., the mirror bezel) on which processor circuit 105 may be mounted. *Col. 6, Lines 43-45.* There is no mention of an actuator in Stam '316; the camera circuit board 202 is mounted in the mirror mount 207, and the mirror circuit board 203 is mounted in the mirror housing body 210, but there is no actuator drive and therefore there is no sensor circuit board arranged in the region between an actuator drive of the interior rearview mirror and a mirror glass, as set forth in claim 1. Weller '675 must make up for the deficiencies of Stam '316, or the proposed combination will fall.

The Office action indicated that Weller '675 teaches an actuator drive 560 and a sensor circuit board 533. *See Weller '675 at Figure 14 and ¶ [0165].* Both Weller '675 and Stam '316 teach only a single circuit board. The component 560 of Weller '675 is designated as electrochromic reflective elements control or circuitry. *¶ [0165].* This is not an actuator drive as set forth in claim 1. For this reason alone, the rejection should be removed.

Additionally, Stam '316 and Weller '675 are not combinable to teach an electronics circuit board accommodated in a mirror housing and a sensor circuit board arranged between an actuator drive and the interior rearview mirror and a mirror glass. Claim 1 of the present invention has an electronics circuit board accommodated in the mirror housing and a sensor circuit board arranged in the region between the actuator drive and the mirror glass. Furthermore, claim 1 specifies that the sensor circuit board is spatially separated from and connected to the electronic circuit board. Applicant submits that it would not be obvious to combine Stam '316, which teaches only one electronics circuit board, with Weller '675, which teaches only one sensor circuit board, to arrive at claim 1 which has two types of circuit boards. Furthermore, there is nothing in the proposed combination of Stam '316 and Weller '675 that would teach the sensor circuit board being spatially separated from and connected by signals to the electronics circuit board because the circuit boards are in separate patents. For the above reasons, Applicant submits that the proposed combination of Stam '316 in view of Weller '675 would not render claim 1 of the present application obvious. Removal of the rejection is respectfully requested.

The Office Action also stated that it would be obvious to combine the two references for the purpose more compactly arranging the rearview mirror elements. Applicant maintains that there is nothing in Stam '316 or Weller '675 that would provide any such motivation. Stam '316 does not teach providing a compact design, but instead teaches two separate housings, the mirror body housing 210 and the mirror mount 207, and is directed to an image processing system that has multiple components inside of the mirror housing and mounting brackets.¹ Thus, Stam '316 does not motivate one to

¹ See Stam '316 at Figure 2, and Col. 6, Lines 20-22, discussing an "image sensor 101 is mounted within a rearview mirror mount 027, which is mounted to the vehicle windshield 220," and Col. 6, Lines 43-45,

make the overall mirror design more compact. Weller '675 also does not focus on the compactness of the mirror design. Instead Weller '675 teaches away from a compact design, and focuses on a design that uses components inside of and outside of the housing so that the circuitry for the electronic compass can fit into the overall vehicle design. Weller '675 specifically teaches that providing the compact design of a compass sensor in a mirror assembly has several disadvantages.¹ Furthermore, Weller '675 teaches away from combining the electronic components in a more compact, single mirror housing because the mirror housing can move and disrupt the compass direction.² For these reasons, Applicant submits that it would not be obvious to one of ordinary skill in the art to combine Stam '316 in view of Weller '675.

Applicant has also added new independent claim 12. Claim 12 is has the elements of at least one electronics circuit board located in said mirror housing, and said sensor circuit board located in said mirror housing, said sensor being operably connected to said sensor circuit board and positioned at least partially in said mirror housing. These elements are also not taught or rendered obvious by Stam '316 in view of Weller '675 because the proposed combination fails to teach **both** an electronic circuit board and a sensor circuit board **in a mirror housing**.

Stam '316 teaches an image sensor 101 mounted onto a camera circuit board 202, with the camera circuit board 202 being mounted to a rearview mirror mount 207 using mounting brackets 212. *Col. 6, Lines 28-31*. Stam '316 also teaches a mirror circuit board 203 provided in mirror housing body 210, on which processor circuit 105

discussing a "mirror circuit board 203 may be provided in mirror housing body 210 (i.e., the mirror bezel) on which processor circuit 105 may be mounted."

¹ See Weller '675 at ¶ [0007], Discussing, "it is known to provide a compass display, and associated circuitry, all integrated into a module, ...such incorporation of the information display of compass direction/heading in the module has disadvantages, including the need to assure readability of the display by the driver of the vehicle."

² See Weller '675 at ¶ [0005]-[0007].

may be mounted. *Col. 6, Lines 43-45.* Also shown in Figure 2 of Stam '316 is the mirror circuit board 203 mounted in the mirror body housing 210, and the camera circuit board 202 mounted in the mirror mount 207. *See Figure 2 of Stam '316.* The mirror mount 207 is a separate component from the mirror body housing 210. *See Figure 2 of Stam '316.* There is no mention of an electronic circuit board and a sensor circuit board in a mirror housing, as required by claim 12. Since the mirror circuit board 203 is mounted in the mirror body housing 210, and the camera circuit board 202 is mounted in the mirror mount 207 of Stam '316, Stam '316 does not teach or render obvious an electronic circuit board and a sensor circuit board in a mirror housing. Therefore, in order for the proposed combination of Stam '316 in view of Weller '675 to render the present invention obvious, Weller '675 must make up for the deficiencies of Stam '316.

Weller '675 teaches a printed circuit board 128 disclosed in a mirror casing 115, and another printed circuit board 130 which is positioned within a housing 110a of module 110. *See Figure 7 of Weller '675, and ¶ [0089], [0092].* The circuit boards as taught by Weller '675 are located in two separate housings.

In addition to the embodiment shown in Figure 7, Weller '675 also has other embodiments in Figures 8-12 in which a printed circuit board 230, 330, 330', 330", and 430 is mounted to a housing (indicated at 210, 310, 310', 310", and 410, respectively) which is separate from the mirror casing. Additionally, in the embodiment shown in Figures 8-12 of Weller '675, there is no printed circuit board mounted in the mirror casing. Since the printed circuit board 128 of Weller '675 is mounted in the mirror casing 115, and a printed circuit board 130 is mounted to a separate module 110, as shown in Figure 7, there is nothing that teaches a mirror housing which has an electronic circuit board and a sensor circuit board, as required by independent claim 12. Additionally, there cannot be a mirror housing which has at least one electronic circuit

board and a sensor circuit board, as required by independent claim 12, because there is no printed circuit board in the housing shown in Figures 8-12 of Weller '675.

There is also a separate embodiment shown in Figures 13-15 of Weller '675 which also fails to teach or render obvious the elements of independent claim 12. The embodiment shown in Figures 13-15 of Weller '675 is a printed circuit board 530 mounted to an accessory module 510, with the accessory module 510 being a separate component from the mirror casing 515. Therefore, the embodiments of Weller '675, shown in Figures 13-15, do not teach at least one electronic circuit board and a sensor circuit board located in a mirror housing, as required in independent claim 12 of the present invention.

In view of the foregoing, the Applicant respectfully submits that claim 12 defines over the art cited by the Examiner and respectfully requests withdrawal of the rejection. Likewise, claims 13-16, which depend from claim 12, further define the invention and define over the art cited by the Examiner. Thus, Applicant respectfully requests withdrawal of the rejection.


CONCLUSION

It is respectfully submitted that in view of the above amendments and remarks the claims 1, and 3-16, as amended, are patentably distinguishable because the cited patents, whether taken alone or in combination, do not teach, suggest or render obvious, the present invention. Therefore, Applicant submits that the pending claims are properly allowable, which allowance is respectfully requested.

The Examiner is invited to telephone the Applicant's undersigned attorney at
(248) 364-4300 if any unresolved matters remain.

Respectfully submitted,

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